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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 715,261	11/20/2000	Joon-Sik Choi	0630-1176P	8595

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EXAMINER

GEMMELL, ELIZABETH M

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/715,261

Applicant(s)

CHOI ET AL.

Examiner

Beth Gemmell

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,10-13,21 and 23 is/are rejected.
- 7) ☐ Claim(s) 3,4,6-9,14,15,17-20 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Receipt is acknowledged of amendments filed 3 March 2003.

#### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1,2,10, and 11 remain rejected under 35 U.S.C. 102(e) as being anticipated by Leng et al. (US Patent 6,469,444).

Re claim 1: Leng et al. discloses a metal halogen electrodeless illumination lamp comprising a microwave generator (figure 1, 16) coupled via a coupling means (figure 1,18) with a microwave cavity (figure 1, 6) which contains a discharge bulb (figure 1, 10), and a microwave screen (figure 1, 8) its function being performed by some part of the microwave cavity walls, which is transparent to optical radiation, the discharge bulb containing a fill mixture of metal halogens which emits visible optical radiation featuring a molecular spectrum, immediately when excited with a high frequency discharge, and an inert gas, of which the fill mixture of metal halogens includes halides of Sn and Al (column 2, lines 32+).

Re claim 2: Leng et al. discloses a component of halides chosen from the group containing chlorine, iodine or bromine (figures 9,12,13 and 15).

Re claim 10: Leng et al. discloses a high-pressure lamp (column 1, lines 18+).  
Wherein a high-pressure lamp inherently has a fill substance, which would allow the

Art Unit: 2882

lamp to maintain the gas vapor pressure in the range of 1-20 atm at working temperature.

Re claim 11: Leng et al. discloses an inert gas chosen from the group containing argon or xenon (column 2, lines 2+)

Claims 13,21 and 22 remain rejected under 35 U.S.C. 102(b) as being anticipated by Dolan et al. (US Patent 5,834,895).

Re claim 13: Dolan et al. discloses a metal halogen electrodeless illumination lamp comprising a microwave generator (figure 1,6) coupled via a coupling means (figure 1, 7) with a microwave cavity (figure 1,4) which contains a discharge bulb (figure 1, 3), and a microwave screen (figure 1, 5) its function being performed by some part of the microwave cavity walls, which is transparent to optical radiation, the discharge bulb containing a fill mixture of metal halogens which emits visible optical radiation featuring a molecular spectrum, immediately when excited with a high frequency discharge, and an inert gas, of which the fill mixture of metal halogens includes bismuth halide (columns 3-4, lines 60+; especially column 4, lines 22+).

Re claim 21: Dolan et al. discloses the amount of a fill substance that would allow to maintain the gas vapor pressure in the range of 1-20 atm at a working temperature of the lamp (column 3, lines 61+).

Re claim 22: Dolan et al. discloses the inert gas chosen from the group containing argon or xenon (column 3, lines 59+).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5,13 and 16 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Leng et al. in view of Furmidge et al. (US Patent 3,867,665).

Leng et al. discloses as above.

Leng et al. fails to disclose adding bismuth halide, to a fill comprising tin halide and aluminum halide, within a metal halogen lamp.

Furmidge et al. discloses a bismuth halide, tin halide and aluminum halide in combination within the fill material (column 5, lines 10+).

One of ordinary skill at the time the invention was made would have been motivated to combine the system disclosed by Leng et al with that of Furmidge et al. because by using all three halides the color appearance and color retention properties of the bulb are substantially improved (column 5, lines 6+). It further improves the radiation in both the ultra-violet and visible wavebands (column 5, lines 12+).

***Allowable Subject Matter***

Claims 3,4,6-9,12,14,15,17-20 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The best prior art of record to Leng et al., Dolan et al. and Furmidge et al. , teaches a conventional discharge lamp. However, they fail to teach or fairly suggest using metal halogens:  $\text{SnBr}_2$  and  $\text{AlI}_3$  (in combination),  $\text{SnI}_2$  and  $\text{AlBr}_3$  (in combination),  $\text{BiI}_3$ . They also fail to teach or fairly suggest using a halide component chosen from the group of chlorine, iodine or bromine.

### ***Response to Arguments***

Applicant's arguments filed 3 March 2003 have been fully considered but they are not persuasive. Applicant admits that Leng et al. teaches the use of Sn and Al as a volatilizer. However, applicant argues that the Leng et al. reference fails to teach the use of Sn and Al as main components in the fill of the lamp (page 10, line 1). However, the instant claims fail to include any limitation of Sn and Al being main components of the fill.

Applicant further argues that Leng et al. and Dolan et al. fail to teach a lamp including only metal halides with a CRI of about 90 (page 11, lines 1-2). However, the instant claims fail to include any limitation of a metal halide fill having a CRI of 90. The Examiner also notes, on page 10, line 19 of the amendment, the applicant's use of stannum to be Sn, however the chemical symbol Sn stands for tin. Therefore, the examiner has treated the claimed limitation of Sn to be tin, since the specification discloses Sn to be tin and to use it otherwise would be repugnant of the definition.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Gemmell whose telephone number is (703) 305-1937. The examiner can normally be reached on Monday-Thursday 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for

Application/Control Number: 09/715,261

Page 7

Art Unit: 2882

the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

emg  
May 7, 2003

